

Appl. No.: 10/573,950
Amdt. dated 08/11/2008
Reply to Office action of 04/11/2008

REMARKS/ARGUMENTS

This Amendment is submitted with a Request for Continued Examination. As explained in further detail below, Applicants have amended independent Claim 1 for clarification and to further distinguish the cited references. Claim 2 has been canceled, and Claim 14 has been added. In light of the amendments and subsequent remarks, Applicants respectfully request reconsideration and allowance of the claims.

In the Office Action, the Examiner rejects Claims 1, 2, 4, and 7-13 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,861,027 to Trapp. The Examiner also rejects Claims 1, 2, 4-7, and 9-13 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent Appl. Publ. No. 2005/0004657 to Burgermeister.

In Applicants' previous response, independent Claim 1 was amended to recite that one annular segment corresponds to the proximal end of the tubular support frame and one annular segment corresponds to the distal end, and that the widened head ends of the transitional sections axially project proximally at the proximal end and distally at the distal end. Claim 1 was further amended Claim 1 to recite that the concavely rounded throat sections of the widened head ends are configured to intermesh with adjacent transitional sections in the initial state. Although it appears that Applicants were able to overcome the previously cited references, the Examiner now relies on both Trapp and Burgermeister as disclosing the claimed invention.

Trapp discloses a stent including apertures (3, 4) formed in a tubular body (1) to define boundary elements (5). The boundary elements are arranged adjacent to one another in a circumferential direction to form a frame element (20). At the ends of the stent, alternating pairs of adjacent boundary elements extend beyond the end of the apertures (3) and connect to a unitary, tongue-like detection element (6). The detection element has about twice the width of a boundary element at its first end (7) and broadens to a width of about four times the width of a boundary element at its second free end (8).

FIGS. 4 and 5 of Burgermeister illustrate a flexible stent that includes rigid sections (R) and flexible sections (F) containing undulating longitudinal connectors (250). The rigid sections are slotted in configuration and include struts (210, 220) that are of varying longitudinal length.

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Although Applicants disagree with the rejection, Applicants have amended independent Claim 1 to recite that the stent is configured to reduce traumatization of a vessel wall and that the widened head ends include convexly rounded edge sections extending between the convexly rounded front section and the concavely rounded throat sections. For example, FIG. 2 of the present application illustrates that head ends (18) include rounded edge sections (22, 23) extending between the convex front section (19) and the concave throat sections (20, 21). As disclosed in the present application, "Rounded head ends 18 assure a protective contact of stent 1 on the vascular wall during placing. Even when stent 1 is being removed the vascular walls are less traumatized because head ends 18 make a gentle explantation possible" (p. 6, lines 5-8). In contrast, Trapp only discloses that the free ends of the detection elements are rounded, but the edges extending between the free ends and the opposed ends are flat, which facilitates flush contact of the detection elements in the circumferential direction over the larger part of their length (see col. 6, lines 1-3). In fact, the Examiner did not even address previous dependent Claim 2 in the final Office Action, which recited a similar configuration where the head ends have a mushroom shape.

Furthermore, Trapp discloses a plurality of detection elements that are employed for improving the visualization of the stent using an x-ray. In particular, Trapp discloses that the detection elements "can form a four-times broadened detection element so that the stent can be better observed on the x-ray screen" (col. 3, lines 56-62). In contrast and as indicated above, the rounded head ends of the present application are not employed for detection but, rather, serve an atraumatic function by minimizing traumatization of the vascular walls during deployment and removal of the stent (see p. 2, lines 8-13). Further unlike Trapp, because the stent of the present application does not appreciably foreshorten upon expansion from the initial state, there is no need to have detection elements at the most proximal or distal ends of the stent for x-ray visualization, and detection elements could be placed at other points along the length of the stent. In fact, the present application discloses that, in one embodiment, a connector that couples the end of a thread looped through deflection elements is employed for x-ray visualization. Conversely, Trapp discloses that due to the broadened detection elements, "the ends of the stent can also clearly be recognized in the expanded state on the x-ray screen so that the displacement

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of the ends of the stent which occurs through the shortening of the stent on the insertion into the hollow organ is recognized and the stent can be correctly positioned" (col. 8, lines 39-46).

Therefore, Trapp does not teach or suggest such widened and rounded head ends used to reduce traumatization to the vessel wall, as recited by amended Claim 1.

With respect to Burgermeister, Applicants wish to point out that the drawings relied upon by the Examiner do not illustrate the proximal or distal ends of the stent but, rather, depict a section of the stent between its ends. In particular, the Examiner relies on FIG. 4A, which is clearly illustrated in FIG. 4 as a partial view of the middle portion of the stent, and FIG. 5 which is indicated as an enlarged view of the partial view shown in FIG. 4A. Therefore, Applicants disagree that Burgermeister anticipates the claimed invention since the embodiments shown in FIGS. 1A, 2A, 3A, 4A, 5, 7A, 7B, and 8A are partial views of a middle portion of a stent and do not depict the ends of the stent including the configuration of annular segments as recited by independent Claim 1 of the present application.

In view of the remarks and amendments presented above, it is respectfully submitted that independent Claim 1 of the present application and those claims that depend therefrom are in condition for allowance. It is respectfully requested that a Notice of Allowance be issued in due course. The Examiner is requested to contact Applicants' undersigned attorney to resolve any remaining issues in order to expedite examination of the present application.

The patentability of the independent claims has been argued as set forth above and thus Applicants will not take this opportunity to argue the merits of the rejection with regard to the dependent claims. However, Applicants do not concede that the dependent claims are not independently patentable and reserve the right to argue the patentability of the dependent claims at a later date if necessary. In particular, Applicants note that the Examiner does not even address several of the dependent claims that are not taught or suggested by either Trapp or Burgermeister. For example, neither reference teaches or suggests deflection elements for looping thread around the outside of the support frame, as recited by Claim 4, or connectors as recited by any one of Claims 5-7.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper.

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However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,



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I hereby certify that this paper is being facsimile transmitted to the Patent and Trademark Office at Fax No. (571) 273-8300 on the date shown below.

 08-11-08
Rieke Welch Date